

PP 12/22/06

COOLING SYSTEM

CROSS-REFERENCE TO RELATED APPLICATIONS

This app. is a con. of 09/771,031 now U.S. Pat No 6,592,577 which
This application is a continuation-in-part of U.S. Patent Application Serial
5 No. 09/638,208, filed August 11, 2000, which is a continuation-in-part of U.S. Patent
Application Serial No. 09/489,646, filed January 24, 2000, which claims priority
from U.S. Provisional Patent Application No. 60/117,175, filed on January 25, 1999.

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH

10 Not Applicable.

FIELD OF THE INVENTION

The present invention relates to a coolant system for a catheter or treatment
wand used for cryotreatment of tissue. In particular, the coolant system is of the type
15 which connects to a catheter and pumps coolant through the catheter to chill a region
of the catheter, such as the distal tip, for treating tissue.

BACKGROUND OF THE INVENTION

A number of cooled catheter systems have been developed for treating tissue in
20 a cardiac setting, either to cool the tissue sufficiently to stun it and allow cold
mapping of the heart and/or confirmation of catheter position with respect to localized
tissue lesions, or to apply a more severe level of cold to ablate tissue at the site of the
catheter ending. In general, the range of treatments which may be effected by a
cryocatheter is comparable to the range of applications for radio frequency or thermal
25 ablation catheters, and in particular, these instruments may be configured to achieve
either small localized ball shape lesions at the tip of the catheter, or one or more
elongated linear lesions extending a length of several centimeters or more along the
tip. The latter form of lesion is commonly used to achieve conduction block across a
region of the cardiac wall so as to sever an aberrant pathway over a length, preventing